

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 2, 5-11, 13-27, 29-33 and 36 have been cancelled without prejudice or disclaimer of the subject matter contained therein. Thus, claims 1, 3, 4, 12, 28, 34 and 35 are pending in the present application, of which claim 1 is independent.

Noted – Priority Documents Received By USPTO

The indication (see present Office Action Summary, box 12(a)(1) as checked) that the certified copies of the priority documents have been received by the USPTO is noted with appreciation.

Noted - Drawings Approved

The indication (see present Office Action Summary, box (10) as checked) that the Drawings (submitted on January 14, 2004) have been approved is noted with appreciation.

Claim Rejections Under 35 U.S.C. §112

Claims 1-4, 12, 13, 28, 29 and 34-36 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. By the foregoing amendments, the claims have been amended to comply with the written description requirement. Accordingly, withdrawal of the rejection is respectfully requested.

Claim Rejections Under 35 U.S.C. §103

Claims 1-4, 12, 13, 28, 29 and 34-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over by Zagrebelny (U.S. Patent No. 6,863,595) in view of Miyashita et al. (U.S. Patent No. 5,861,054). Claims 2, 13, 29 and 36 have been cancelled without prejudice or disclaimer of the subject matter contained therein.

INDEPENDENT CLAIM 1

As an example, independent claim 1 recites, among other things, a feature of “supply of said water through the second nozzle starts at the second polishing after the first polishing” (Underlining is added for emphasis). As will be explained below, at least this feature of claim 1 is a distinction over Zagrebelny, and thus over its combination with Miyashita et al.

Miyashita et al. teaches at column 10, line 65 to column 11, line 20:

“It is also possible to prepare a diluted polishing slurry by adding a dispersant, e.g., ionized water, to the polishing slurry according to the present invention. When a polishing slurry like this is used, not only the polishing slurry contributes to polishing but there is also an auxiliary polishing action by the dispersant. A solvent of a polishing slurry also has a dispersion effect.

Examples of the dispersant are an emulsifying agent, water, a surfactant, fats and oils, an adhesive, and ionized water (alkali ionized water and acidic ionized water).

If a polishing slurry added with a dispersant is left to stand, however, the dispersant sometimes reacts with particularly the solvent of the polishing slurry to deteriorate the polishing slurry. To prevent this deterioration of a polishing slurry, it is possible to simultaneously add a polishing slurry and a dispersant to the process point of a polishing pad when CMP is performed. Especially when a dispersant is alkali ionized water, it is preferable to produce alkali ionized water and at the same time supply the produced water together with a polishing slurry to the process point of a polishing pad. This is so because alkali ionized water cannot be stored for long time periods.”

In Miyashita et al., the water is used as the dispersant.

Miyashita et al. teaches at column 11, lines 43-56:

“In the invention, at the time of polishing a semiconductor wafer, a polishing slurry which contains silicon nitride (Si₃N₄) particles is supplied from a polishing tank through a polishing-slurry supply pipe 39 to the polishing pad 25, and at the same time ionized water is supplied from an ionized-water supply pipe 40 to the polishing pad 25. To this end, the polishing-slurry supply pipe 39 and the ionized-water supply pipe 40 have their nozzles located above the polishing pad 25 and in the vicinity of the wafer carrier 31 which holds the semiconductor wafer. The polishing slurry and ionized water are supplied to the working area of the polishing pad 25 and mixed with each other by means of the supply pipes 39 and 40. The supply pipes 39 and 40 are movable over the polishing pad 24.” (Underlining is added for emphasis)

In Miyashita, since the water is used as the dispersant, both of the polishing slurry and the ionized water are supplied onto the polishing pad.

Therefore, if Miyashita et al. is combined with Zagrebely, both of the polishing slurry and the ionized water are supplied onto the polishing pad in a primary polishing step, and both of the polishing slurry and the ionized water are supplied onto the polishing pad in a final polishing step. A combination of these references does not make the feature of “supply of said water through the second nozzle starts at the second polishing after the first polishing” (Underlining is added for emphasis) as recited in claim 1.

Among other things, a *prima facie* case of obviousness must establish that the asserted combination of references teaches or suggests each and every element of the claimed invention. In view of the distinction of claim 1 noted above, at least one claimed element is not present in the asserted combination of references. Hence, the Office Action fails to establish a *prima facie* case of obviousness vis-à-vis claim 1. Claims 3, 4, 12, 28, 34 and 35 ultimately depend from

claim 1, respectively, and so at least similarly distinguish over the asserted combination of references.

In view of the foregoing discussion, the rejection of claims 1, 3, 4, 12, 28, 34 and 35 is improper. Accordingly, withdrawal of the rejection is respectfully requested.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below.

Application No. 10/823,729
Art Unit: 2818

Amendment under 37 C.F.R. §1.116
Attorney Docket No. 042341

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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